

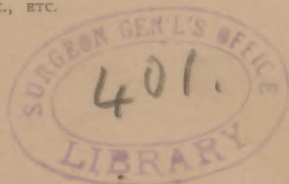
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The Arrest and Partial Resorption
of Immature Cataract
with Restoration of
Reading-Power

BY

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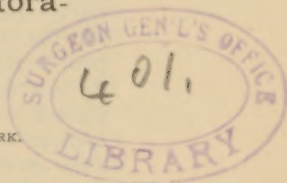
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The Arrest and Partial Resorption of Immature Cataract, with Restoration of Reading-Power.¹

By RICHARD KALISH, A. M., M. D.,

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INSTEAD of premising this paper by an historical sketch, which could only be a review of what has already been published on this subject and is known to you, allow me to state briefly what brought about the investigation of this exceedingly interesting subject. In an old treatise on cataract Majendie is credited with quoting Gondret as stating that, eventually, lenticular opacity will be cured by absorption, and the dangers incident to an operation avoided. Once having noticed this, it surprised me to observe how often its repetition occurred in the writings of that period; but a search of the literature failed to throw any additional light on the subject, or give any clew to a plan of treatment. Reports of cases of so-called "spontaneous absorption of cataract" were examined with the hope that some suggestions might be gained, but without success. Here let me express the opinion that, although I have never seen a case of spontaneous absorption, I feel certain from an examination of the literature that, when it is said to occur it is brought about by the

¹ Read before the Section on Ophthalmology and Otology of the New York Academy of Medicine, March 17, 1890.

employment of some local domestic remedy, derived probably from the vegetable kingdom. I would therefore ask that this be borne in mind, so that when a case comes under notice a complete, searching, and rigid investigation of the history, habits, mode of life, and the surroundings of the patient be made, and a full and accurate account be taken of everything that has been done for the eyes, even to the minutest detail. When this plan shall have been carried out in a number of cases, I do not doubt but that important information will be gained. After devoting considerable time to research, it seemed to me that the solution of the problem of the cure of cataract *without* operation would depend upon the reply to these two questions:

1. Since non-traumatic cataract depends upon an interference with, or deficient nourishment of, the lens, how can an additional supply of nutrient material be furnished to the intra-ocular structures?

2. How can a remedy possessing solvent or discutient powers be brought into relation with the lens so that it may exert its influence and cause absorption or dissipation of the opacity present in the lens?

The first requisite could be gained by any means which would bring about an increased blood-supply to the inner structures of the eyeball, and the most feasible plan seemed to be properly applied manipulation. The second requirement, which may be called the therapeutical element, seemed almost impossible of solution. At this time an article by a Dr. Mercer appeared in the *British Pharmaceutical Journal*, on cineraria maritima, which is no doubt familiar to you all, as it has been republished in almost every medical journal and many of the daily papers as well. I obtained some of the juice, expressed from the fresh leaves, from Venezuela, and gave it a fair trial. It was absolutely without effect in the cases in which it was employed, and as these were private patients and intelligent people, I am positive that the remedy was faithfully tried. The publication of Dr. Mercer's

letter was through the agency of the Director of the Royal Gardens at Kew, England, and the Assistant Director, Mr. D. Morris, wrote me that nothing further was known than the original letter; which statement was also made in a letter to me from Mr. J. H. Hart, the Director of the Royal Botanic Gardens at Trinidad, to whom Dr. Mercer had written for a supply of the fresh leaves. I have been unable to find any further account of the use of cineraria, although Dr. Mercer promised to make a supplementary report after further trial of the remedy. To say the least, this silence is certainly ominous. I have devoted this extent of space to cineraria because I receive letters every few days asking if I have used this remedy, and if I would advise its employment. I can only repeat that I have found no benefit to follow its use, and am fully convinced as to its utter inefficiency. The next remedy was *pulsatilla*, employed in various forms—fresh juice, fluid extract and tincture of the fresh herb, and the oil obtained by maceration of the compressed herb in olive oil and in sweet oil of almonds. Briefly stated, no benefit was obtained. Electricity in its different forms next claimed my attention. I have been able to slightly improve vision for distant objects in a few cases only, so that the outline of large objects could be discerned, but no improvement in reading-power was acquired, and in the large majority of cases nothing at all was gained. Only the galvanic current seems to have any influence, and if I may be permitted to theorize, I would say that in those cataracts where a direct interference with the function of the fifth nerve can be established, possibly electricity, together with the administration to full physiological effect of strychnia and some form of phosphorus, probably as phosphorated oil, may prove beneficial. Castor-oil, which possesses solvent power in a marked degree and which is easily and largely absorbed, was tried, found ineffectual, and discarded to make place for its derivative, polysolve or solvine. This is intensely irritating to

the conjunctiva, and requires so much dilution before it can be employed that only an infinitesimal quantity is contained in the solution, and its use was abandoned. Just about this time I was informed that some one in Baltimore and another in Boston were *curing* cataracts without operation. No information could be obtained in reference to what was being done in Baltimore; but I found that the man in Boston had benefited, but **not** cured, several cases, and that his treatment was a profound secret which he positively refused to divulge. I continued my experimentation with other not so well-known remedies, made a trial of the different methods of manipulation of the eyeball, and evolved a form of manipulation which, together with the instillation of a solution to be described, I have found to produce marked and lasting improvement in near and in distant vision. As a result of this plan of treatment a very brief *résumé* of the first six cases, so treated will not, I trust, be out of place.

CASE I.—German, aged seventy. Treated since November, 1888, with above first-mentioned remedies; sight not so good as before treatment. Led to my office, as she cannot see street signs or house numbers. She cannot distinguish vegetables by size or color when marketing. Right eye has light perception only; left eye sees figures at ten feet, but only in some directions. She cannot read any of the letters on the Jaeger test-card. Treatment by conjoined manipulation and instillation begun January 4, 1889. On February 14th she could distinguish, with her right eye, the outline of large objects, as houses, and with the left eye read Jaeger No. 14 at eight to ten inches. There was steady improvement up to June, when the treatment was stopped. She was then able to do her housework, marketing, and coarse sewing, as darning, etc. From January until April the treatment was kept up daily, after which she did not attend regularly, as she had a bad attack of Bright's disease.

CASE II.—American, aged fifty. Commencing cataract of both eyes. Had keratitis when a child. Some opacities still remain, just above pupillary margin. Uses a convex cylindrical glass. Objects have become so dim that she is about to give up her occupation of teaching music. Vision in the right eye — $\frac{2}{100}$, in the left eye — $\frac{1}{100}$; with her glasses she can see a few letters of Jaeger No. 2 at three to five inches, but her sight becomes blurred almost at once, and the letters become duplicated. No benefit from any change in glasses. Fundus cannot be seen. Treatment by conjoined manipulation and instillation begun February 26, 1889. Marked improvement after two weeks of treatment, and in the latter part of March she resumed charge of her classes. She uses the same spectacles she has had for the past fifteen years. March 1, 1890, declares her sight to be better than in many years, and is again able to sew, which she was forced to give up over two years ago. Reads the daily papers easily.

CASE III.—American, aged seventy-five. Was informed by an oculist in February, 1888, that she had commencing cataract of both eyes. In March, 1889, her vision in the right eye was $\frac{1}{100}$, in the left $\frac{2}{100}$, and accepted + 1⁵⁰ D. spherical. With + 6⁰⁰ D. she read with the right eye Jaeger No. 10 at 6 to 14 inches, and with the left eye Jaeger No. 9 at six inches, but in both cases with difficulty, and only a few lines. Treatment by conjoined instillation and manipulation from March 1st until June 30th, when treatment was stopped with the sight greatly improved. Four months later, in October, her vision was $\frac{3}{8}$ +, in both eyes—it was only $\frac{1}{100}$ when she presented herself for treatment—and with her glasses could read and sew. At the beginning of the treatment there were symptoms of chronic glaucoma, with increased tension amounting to + 1. Under manipulation, as has been noted by Pagenstecher, the tension was reduced and has since remained at about - 1. On

March 10th, 1890, sight was as at the last note, and tension still minus.

CASE IV.—American, aged eighty. Cataract, immature, of both eyes. Vision in right eye $\frac{3}{8}$. In the left eye $\frac{2}{100}$, unimproved. She can read Jaeger No. 9 at ten inches with the right eye, and at fourteen inches with the left. Treatment by conjoined instillation and manipulation commenced March 15, and continued until June 1st. A report from her, about two weeks since, states that she reads her newspaper easily and can do ordinary sewing.

CASE V.—English, aged seventy-six. One who has tried cineraria maritima, but without benefit. She can count fingers with each eye at five feet. Impossible to see the fundus. Treatment by conjoined instillation and manipulation commenced on April 17, 1889. May 1st, the vision in the right eye was $\frac{5}{100}$, and she could read Jaeger No. 13 at four inches, but only a few words; with the left eye the vision was $\frac{1.5}{100}$; she could read Jaeger No. 13 at four inches, and the letters were made much clearer by adding $+1.00$ D. cyl. axis 90° . July 1st, vision in the right eye was $\frac{1.2}{100}$, and with $+0.50$ D. spherical $=\frac{2}{100}$; in the left eye $\frac{2}{100}$ with $+1.00$ D. spherical $=\frac{2}{100}$, and she could make out a few letters of Jaeger No. 6. Fundus can now be seen through the thinned parts of the cataract, and the results of a very extensive retinitis, in both eyes, resembling albuminuric retinitis, can be distinctly made out. Examination of the urine is negative. The retina is so badly damaged that sight could not be improved to the reacquisition of reading power, even if all lenticular opacity were removed. March 1, 1890, there has been some gain in distant vision, so that the fear of not seeing approaching horses when crossing the street is overcome.

CASE VI.—American, aged nineteen. Zonular cataract of both eyes, thought to have followed an illness when

two years of age, which was diagnosticated as meningitis. Left eye was operated upon four years ago—iridectomy—"to either clear it all up, or render the lens entirely opaque, so that it could be extracted." The operation was entirely unsuccessful. Vision in the right eye was $\frac{3}{8}$,—unimproved by glasses. Under cocaine dilatation the clear ring at the periphery of the lens is distinctly seen, and with the ophthalmoscope the existence of hypermetropia determined. She cannot read except by doubling the fist so as to make a canal through the partly closed hand, and looking through this dark passage. Even then all the words are not clearly seen, but are supplied from the context, and words of three or more syllables are "guessed at" from seeing the first three or four letters. Unimproved by any glass. Treatment by conjoined instillation and manipulation commenced on October 4, 1889. On November 20th she read slowly, and without shading her eye, from Jaeger No. 7. There has been a steady improvement, and on February 8th, with a $+4^{\text{oo}}$ D. spherical she read for an hour from the morning paper, and for the first time in her life threaded a cambric needle. All this is done with the right eye. The left, which had been operated upon, has improved for distant objects so much that she can distinguish by the attire a man from a woman at six to eight feet distant.

In every one of these cases there is a marked thinning of the lenticular opacity, easily discernible by the ophthalmoscope and by oblique illumination.

My method of conjoined instillation and manipulation consists in the instillation of a mixture of equal parts of glycerine and a one per cent. solution of boric acid in rose-water. If this cause too much irritation, that is, if it last longer than five to twenty seconds, I reduce the proportion of glycerine; whereas if no irritation be caused I increase the glycerine up to double the quantity of the rose-water solution. In only one case

was it possible to employ more than three instillations at a single treatment. After the first, each successive instillation, as a rule, causes more smarting. Conjoined with this instillation I employ a form of manipulation, *not massage*, conducted as follows: The patient is seated in a chair with a back high enough to support the head; two drops of the solution above mentioned are instilled into each eye, and the operator, standing or sitting behind the patient, places both hands over the closed eyes, so that the tip of each middle finger rests upon the eyeball at its nasal side, the index and ring finger falling into place beside the middle finger. With slight pressure upon the eyeball the three fingers are drawn outward over the eye to the temporal side. This procedure is repeated twenty to thirty times a minute, the stroking being in one direction only, and continued for ten minutes, when a second instillation of two drops into both eyes should be made, manipulation carried on as before for ten minutes; then a third instillation, followed by manipulation for ten minutes. This is not fatiguing to the operator, provided the head of the patient be so placed that the arms of the operator may rest upon the top of the chair. This treatment is to be continued daily for a week, and then the interval between the instillations lengthened to fifteen minutes, making the treatment three-quarters of an hour in duration. After treatment the sticky solution is wiped from the face by cloths wrung out of hot water, producing the additional effect of cooling the lids by its evaporation. Should the heat of the lids persist, the patient should remain until the lids become cool. Without going into details which cannot be of interest, I can state that I employed *manipulation alone, but without improvement. This applies also to instillation of various remedies. Separately each was inefficient, conjoined they were followed by great and lasting benefit.* The first noticeable effect is the marked softening of the eyeball. I would here state that in only one of these six cases did the tension seem

normal; in the other cases there was an appreciable hardening not amounting to $+1$, but still decidedly appreciable, a condition I have found present in by far the larger number of cases subsequently tested, both in private and public practice. In point of fact, I can say that in my experience a cataractous eye with normal or slightly diminished tension is the rare exception. This is something I do not remember to have seen anywhere stated.

On theoretical grounds the reduction of tension caused by this form of manipulation, together with the stimulation which the stroking will bring about, should quicken the circulation and cause an increased blood-supply, thus furnishing additional nutriment to the eye. Incidentally, I would suggest this form of manipulation in the treatment of chronic glaucoma, with the expectation of getting as good a result as was obtained in Case III. above mentioned. For the first few days the patients complain of tenderness of the eyeball, coming on immediately after the treatment and remaining for one or two hours; but after the expiration of about a week this tenderness ceases. There is also considerable conjunctival injection for a varying length of time after each treatment, but neither of these occurrences seems to cause more than a slight and passing discomfort. The treatment should be continued for three or four months. I have treated but a single case for a longer period than four months, and in this case, early in the second week of the fifth month, it seemed to me that the sight was beginning to deteriorate, and as the patient had re-acquired the power of reading I concluded to let well enough alone and stopped the treatment. Until further experimentation shall modify my opinion, I would not advise the continuation of this treatment for a longer time than fourteen to seventeen weeks. The eyes should be examined every two weeks and an accurate record of the result, together with a diagram of the lens, should be recorded for purposes of comparison, and in order

to know how much improvement is taking place and when the treatment should be stopped. *This treatment should not be entrusted to an unskilled person, but should be carried on under the guidance and observation of an oculist; a general practitioner is not competent to oversee it.* In one of my cases, after careful instruction the attendant became negligent, varying pressure was exerted, the manipulation done in an irregular manner, and the sight was becoming more indistinct. Under my own manipulation sight gradually improved and reading-power was restored. I now permit nothing to be done except under my personal supervision. This plan of treatment sounds simple enough, and its application no difficult matter; but in the hands of an inexperienced and irresponsible operator cannot but be fraught with great danger to the integrity of the delicately organized visual apparatus. Ill-regulated or too deep pressure is likely to bring on just what we wish to avoid, the ripening of the cataract, even if it stops there and does not seriously damage the eye itself. I would, therefore, give this earnest and timely caution to anyone employing this treatment, to attend to the manipulation personally, or to have it conducted under the watchful eye of *an experienced oculist*, otherwise certain failure will terminate the effort.

In addition to the above six cases I have treated ten more, but do not report them, because some of them are still under treatment, and others have so recently been treated that I prefer to wait a little longer in order to test their permanency. I can say, however, that these cases seem to have been improved even a greater degree than those first quoted. A future report will give the results obtained in these cases.

The conclusions arrived at are : 1. Cases of immature uncomplicated cataract can be permanently benefited by my method of conjoined instillation and manipulation. 2. The reading-power can be restored. 3. The treatment must be applied daily, Sundays excepted, for two

or three months, and at the first notice of lack of benefit or diminution of sight, treatment must be stopped.

4. *The treatment must be under the supervision of an oculist.*

Finally, the delay in reporting this method of treatment is because I attempted to do what other experimenters aimed at; that is, to bring about the absorption of all of the lenticular opacity, and because I thought that, with new remedies, it might be possible to shorten the time required for this treatment. I have tried a great many remedies, and combinations of remedies, to particularize which would be a waste of time, but have returned to the solution above given as bringing about the best results.

Every patient I have treated has expressed entire satisfaction with the result obtained, declaring the treatment to be a great boon, as it seemed impossible to wait patiently with darkness stealing over the sight, becoming more and more helpless, dependent, perhaps for years, until blindness shut them in. This feeling is graphically expressed by one of my patients, who said: "I am going home now, able to read and sew, and feeling, oh, so many years younger than when I first met you; for I feared that your opinion would be but the reiteration of what I had before been told, and which amounted to this: 'That I must wait until I became blind, then submit to an operation, and if I were one of the fortunate ninety or ninety-two, all would be well;' but the fear that I might be one of the eight or ten failures filled my soul with terror and my heart with anguish. This is past now, and I trust that the horror by day and terror by night which I endured for several months will never again be part of human suffering."

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